



**Prepared Statement of Mr. Gene McCormick,
Senior Vice President
Parsons Brinckerhoff, Inc., Alexandria, Virginia**

**Testifying on Behalf of the American Road and
Transportation Builders Association**

Before the

**Highways and Transit Subcommittee of the
House Transportation and Infrastructure Committee**

**“Relieving Highway Congestion through Capacity
Enhancements and Increased Efficiency”**

May 21, 2002



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Mr. Chairman and members of the Subcommittee, on behalf of the American Road and Transportation Builders Association (ARTBA) I would like to thank you for inviting us to be here this morning to discuss the ability of transportation capacity enhancements and efficiency measures to alleviate congestion.

I am Gene McCormick, senior vice president of Parsons Brinckerhoff Inc. (PB), one of the nation's largest transportation engineering companies, and also serve as member of the PB Board of Directors. Prior to joining Parsons Brinckerhoff, I was a former deputy secretary of the Illinois Department of Transportation and deputy administrator of the Federal Highway Administration in the first Bush Administration.

I am here today on behalf of the ARTBA, which is currently celebrating its 100th anniversary representing the transportation construction industry here in Washington. ARTBA's 5,000-plus members come from all sectors of our industry—both public and private. Our industry generates \$200 billion annually in U.S. economic activity and sustains the employment of more than 2.2 million Americans. I am pleased to serve as the co-chairman of the ARTBA TEA-21 Reauthorization Task Force and Northeastern Vice Chairman of ARTBA's Executive Committee.

At the beginning of last year, ARTBA released a comprehensive series of priorities for the reauthorization of TEA-21. A copy of the executive summary of that report is attached to my written testimony. The recommendations of our task force coincide very well with the topic of today's hearing—how can policy makers and stakeholders address the system performance needs of the nation's surface transportation network.

Our Congestion Crisis

This subcommittee has heard compelling testimony from a wide array of experts on the growing congestion problems facing the nation's highway, bridge and transit systems. While I will not repeat the essence of these previous, well-documented assessments of the congestion crisis facing the nation's transportation system, there are several unique ways to convey this critical dilemma in a more direct manner.

Tables 1 and 2 that follow demonstrate two separate perspectives on congestion that are quantified on a state-by-state basis. First, I would like to discuss growth in overall travel. Table 1 shows the amount of change in vehicle miles traveled (VMT) over the period 1990 to 2000. According to the U.S. Department of Transportation's annual *Highway Statistics* report, VMT increased nationwide over this ten-year period by 28 percent. The state experiencing the most dramatic VMT change was Nevada with a 72.7 percent increase. The data for several other randomly selected states in which members of the subcommittee might be interested are:

- Wisconsin, a 29.3 percent increase;
- Pennsylvania, a 19.4 percent increase;
- Alaska, a 15.9 percent increase; and
- Minnesota, a 35.1 percent increase.

While VMT is certainly an indicator of the nation's congestion crisis, it is only part of the story. Over 71 percent of the value of all goods sold in the U.S. is shipped to market by truck on the nation's highways. Table 2 is derived from data contained in the most recent U.S. Department of Commerce *Commodity Flow Survey* and demonstrates the value of goods shipped over the road by state. Again, using randomly selected states to demonstrate this point:

- Wisconsin, 80.1% of the value of all goods shipped by truck;
- Pennsylvania, 74.2% of the value of all goods shipped by truck;
- Alaska, 52.1% of the value of all goods shipped by truck; and
- Minnesota, 64.8% of the value of all goods shipped by truck.

Despite the advent of e-commerce and the cyber age, this information shows bricks and mortar remain an integral component of the nation's economic fabric. According to this data, almost three-quarters of the goods purchased on the Internet are still transmitted to the ultimate consumer via trucks on highways. In the last 30 years, vehicle miles of truck travel have increased by 225 percent and experts estimate that by 2020 there will be a doubling of trucks on the road over current numbers.

Transit ridership has also grown significantly in recent years. From 1993 to 1999, total transit ridership increased by 21 percent. Clearly, more and more Americans in urban areas are using public transportation for their daily commutes and other transportation needs.

The undeniable conclusion from this data is that the national reliance on highways, bridges and transit is pushing the limits of the current system. As you have been told at previous hearings, U.S. demographics in the coming years will only exacerbate this situation.

TEA-21 was a historic measure and was enthusiastically supported by virtually all transportation community stakeholders, policy makers at all levels of government and the general public. It is important, however, to keep this measure in perspective. While TEA-21 was a dramatic step forward in reversing a pattern of underinvestment in the

TABLE 1

Growth in Vehicle Miles of Travel by State: 1990 - 2000
(Millions of miles)

	1990	2000	Percent Change
Alabama	42,347	56,534	33.5%
Alaska	3,979	4,613	15.9%
Arizona	36,456	49,768	36.5%
Arkansas	21,011	29,167	38.8%
California	258,926	306,649	18.4%
Colorado	27,178	41,771	53.7%
Connecticut	26,303	30,756	16.9%
Delaware	6,548	8,240	25.8%
Florida	109,997	152,136	38.3%
Georgia	72,746	105,010	44.4%
Hawaii	8,066	8,543	5.9%
Idaho	9,849	13,534	37.4%
Illinois	83,334	102,866	23.4%
Indiana	53,697	70,862	32.0%
Iowa	22,993	29,433	28.0%
Kansas	22,849	28,130	23.1%
Kentucky	33,639	46,803	39.1%
Louisiana	37,667	40,849	8.4%
Maine	11,871	14,190	19.5%
Maryland	40,536	50,174	23.8%
Massachusetts	46,130	52,796	14.5%
Michigan	81,091	97,792	20.6%
Minnesota	38,946	52,601	35.1%
Mississippi	24,398	35,536	45.7%
Missouri	50,883	67,083	31.8%
Montana	8,332	9,882	18.6%
Nebraska	13,958	18,081	29.5%
Nevada	10,215	17,639	72.7%
New Hampshire	9,844	12,021	22.1%
New Jersey	58,923	67,446	14.5%
New Mexico	16,148	22,760	40.9%
New York	106,902	129,057	20.7%
North Carolina	62,707	89,504	42.7%
North Dakota	5,910	7,217	22.1%
Ohio	86,972	105,898	21.8%
Oklahoma	33,081	43,355	31.1%
Oregon	26,738	35,010	30.9%
Pennsylvania	85,708	102,337	19.4%
Rhode Island	7,024	8,359	19.0%
South Carolina	34,376	45,538	32.5%
South Dakota	6,989	8,432	20.6%
Tennessee	46,710	65,732	40.7%
Texas	162,232	220,064	35.6%
Utah	14,646	22,597	54.3%
Vermont	5,838	6,811	16.7%
Virginia	60,178	74,801	24.3%
Washington	44,695	53,330	19.3%
West Virginia	15,418	19,242	24.8%
Wisconsin	44,277	57,266	29.3%
Wyoming	5,833	8,090	38.7%
U.S Total	2,147,501	2,749,803	28.0%

Source: U.S. Department of Transportation, *Highway Statistics*, 1990 & 2000.

TABLE 2**Value of Commodity Flows by State - 1997**
(US\$ Million)

	Total Value	Shipped by Truck	Percentage
Alabama	101,547	80,878	79.6%
Alaska	6,653	3,469	52.1%
Arizona	86,256	49,199	57.0%
Arkansas	71,670	59,026	82.4%
California	802,192	542,698	67.7%
Colorado	76,537	52,082	68.0%
Connecticut	83,388	55,410	66.4%
Delaware	16,949	12,416	73.3%
Florida	214,397	154,035	71.8%
Georgia	224,442	177,949	79.3%
Hawaii	11,272	6,696	59.4%
Idaho	26,188	14,697	56.1%
Illinois	357,887	257,762	72.0%
Indiana	213,193	163,196	76.5%
Iowa	110,175	91,338	82.9%
Kansas	76,502	56,609	74.0%
Kentucky	129,016	91,767	71.1%
Louisiana	119,590	53,176	44.5%
Maine	22,997	16,000	69.6%
Maryland	88,260	70,822	80.2%
Massachusetts	142,223	91,802	64.5%
Michigan	320,536	227,120	70.9%
Minnesota	155,184	100,592	64.8%
Mississippi	60,975	49,970	82.0%
Missouri	147,957	98,922	66.9%
Montana	12,996	7,742	59.6%
Nebraska	59,013	47,289	80.1%
Nevada	21,325	15,040	70.5%
New Hampshire	30,843	19,021	61.7%
New Jersey	285,814	208,604	73.0%
New Mexico	16,404	10,440	63.6%
New York	290,350	207,308	71.4%
North Carolina	267,172	232,955	87.2%
North Dakota	15,199	9,915	65.2%
Ohio	387,758	296,673	76.5%
Oklahoma	57,609	43,088	74.8%
Oregon	105,063	76,195	72.5%
Pennsylvania	297,308	220,639	74.2%
Rhode Island	15,255	11,081	72.6%
South Carolina	102,750	87,926	85.6%
South Dakota	20,178	10,741	53.2%
Tennessee	165,771	140,445	84.7%
Texas	567,017	366,365	64.6%
Utah	42,263	29,378	69.5%
Vermont	13,569	9,300	68.5%
Virginia	122,980	102,919	83.7%
Washington	151,478	71,753	47.4%
West Virginia	35,570	26,412	74.3%
Wisconsin	183,101	146,705	80.1%
Wyoming	8,742	3,778	43.2%
U.S Total	6,943,988	4,981,531	71.7%

Source: U.S. Department of Commerce, Commodity Flow Survey, 1997.

nation's surface transportation system at the federal level, it could not realistically be expected to alleviate our transportation challenges overnight.

It is not heresy to acknowledge TEA-21 slowed the decline of the physical condition and system performance of the nation's highway network. Under TEA-21, federal highway funds are used primarily for system preservation, not capacity enhancements. The distribution of federal highway funds since TEA-21's enactment has become even more skewed toward preservation than under its predecessor, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). Table 3 is a comparison of the use of federal highway funds under ISTEA and TEA-21.

TABLE 3 Miles of Federal-Aid Highway Improvements, TEA-21 vs. ISTEA

New start projects authorized

	Average no. of miles	Percent Distribution	Average no. of miles	Percent Distribution	Percent change avg. no. of miles TEA-21 vs. ISTEA
	FY 98-00		FY 92-97		
System Expansion					
New construction	441.1	2.3%	329.2	2.3%	34.0%
Reconstruction with added capacity	970.7	5.1%	1,020.3	7.3%	-4.9%
Major widening	712.7	3.7%	662.9	4.7%	7.5%
Subtotal, system expansion	2,124.5	11.1%	2,012.4	14.4%	5.6%
System Preservation					
Relocation	163.1	0.9%	181.6	1.3%	-10.2%
Reconstruction, no added capacity	1,775.8	9.3%	1,605.6	11.5%	10.6%
Minor widening	626.1	3.3%	812.6	5.8%	-23.0%
Restoration & rehabilitation	3,945.5	20.6%	3,276.7	23.4%	20.4%
Resurfacing	10,549.6	55.0%	6,125.0	43.7%	72.2%
Subtotal, system preservation	17,060.1	88.9%	12,001.6	85.6%	42.1%
Total	19,184.6	100.0%	14,014.0	100.0%	36.9%

Source: FHWA, *Highway Statistics*, Table FA-10, all years

Under TEA-21, federal highway funds have been used to start an average of 441 miles of new highway construction each year. This means the federal program is adding just over one-hundredth of one percent each year to the number of highway miles in the U.S. In other words, it would take 89 years at the present rate for the federal highway program to expand the number of miles of roadway by just one percent!

According to the Texas Transportation Institute, 53 percent of urban interstate highway miles are congested during peak travel hours. This is where new capacity is most needed—and most difficult. Yet under TEA-21, an average of only 93 miles of new urban interstate and expressway construction has been started each year with federal funds. Assuming these new interstates and expressways are four-lane highways, this translates into just over one-tenth of an inch of new roadway each year for every urban resident in the U.S.!

Under TEA-21, the average annual number of miles of highway construction designed to add capacity to the system has grown only 5.6 percent compared to ISTEA. By contrast,

the average number of miles per year of highway construction dedicated to system preservation has grown by 42 percent. The largest increase under TEA-21 involves simple highway repaving—the number of miles being repaved each year is up 72 percent under TEA-21 vs. ISTEA.

While these are legitimate choices that have been made by state departments of transportation in response to their unique needs and further represent the voluminous demands on the nation's transportation infrastructure, no one should be under the mistaken impression that TEA-21 resulted in substantial growth in highway capacity. This may be good news for the ill-informed that are concerned about the potential of the federal government to “pave over America,” it is bad news for the businesses and individuals that suffer daily from a saturated transportation system.

The Case for Capacity

The challenges posed by the nation's transportation congestion crisis leave few alternatives. Any objective analysis of the situation would say America needs more infrastructure capacity in all modes of transportation to keep pace with a growing population and economy. If you don't add capacity—and we really haven't in a significant way over the past 30 years—the inevitable result is congestion!

The precedent-setting efforts of the U.S. to develop and build the interstate roadway system are remarkable. Several decades later, however, it is fair to evaluate the question of whether we adequately planned for future maintenance, rehabilitation and expansion of the system. Surely, the early planners of the interstate system did not believe that their plans would endure a half-century without enhancements, but in many cases, that is what has happened and we are now seeing the results. Moreover, some early planned roadway systems have not been built. Those areas are suffering the backlash of congestion that an under-capacity system delivers.

Since 1970, the U.S. population has increased 30 percent, the number of licensed vehicles has increased 87 percent, vehicle miles traveled in the U.S. have increased 125 percent, but new highway capacity has only increased six percent. What's surprising is that congestion is not worse.

The Census Bureau estimates the U.S. population will grow by 60 million between 1995 and 2020. ARTBA estimates we will have 246 million motor vehicles on America's highways by 2009, a 14 percent increase from 1999. Highway travel is expected to increase 40 percent by 2015.

U.S. DOT and EPA research show that as traffic congestion reduces average motor vehicle speed, air pollution increases. For carbon monoxide, and volatile organic compounds, two of the three primary mobile source emissions, from an air quality perspective; the optimal average motor vehicle operating speed is approximately 55 miles per hour (mph). As average speed goes down, pollutants from these emissions increase. Nitrogen oxides (NOx) are different. The optimum speed for NOx currently is about 20 mph although little additional pollution is produced at speeds up to 45 mph. Thus with respect to air pollution, highway

congestion that reduces average speeds below 45 mph unnecessarily increases harmful auto emissions.

The U.S. needs a dynamic transportation network to meet the needs of a growing population and economy. Among the primary methods to ensure the efficiency of this system is adding road capacity where appropriate and desired by a majority of local citizens. This is key to reducing traffic congestion and the resulting auto, truck and bus emissions. In addition to personal mobility, adequate road capacity is essential to maintaining time-sensitive ambulance, police and fire emergency response service.

If You Build It They Will Come

Critics of transportation system capacity enhancements often cite the so-called theory of “induced travel.” This line of thinking suggests that adding highway capacity will lead to more drivers that fill-up these newly created lanes and, as a result, little congestion alleviation benefits are possible from new highway capacity. These same critics compare treating congestion problems by enhancing highway capacity to treating obesity by adding another belt loop.

On its face, the theory of induced travel may seem to have merit. Most of us have observed new highway construction at some point in our lives and have also noted a lot of cars on these new roads shortly after they are completed. Once the surface of this theory is scratched, however, the truth is realized. While it may be true that people may choose to drive on newly created expressways, it is also true that many of these drivers are simply shifting travel patterns. As a result of newly created highway capacity, many drivers leave the backroads and neighborhood streets to travel on safer, more direct routes.

A 1998 Federal Highway Administration report found that increased vehicle travel on expanded road capacity is largely the result of traffic being diverted from nearby routes or from shifts in travel times. Diverting traffic reduces overall regional traffic congestion. The study concluded that only 5 to 13 percent of the new traffic on expanded urban highways is attributable to new highway travel actually induced by the expanded capacity. A 1998 University of Illinois at Chicago study of regional development patterns in the Chicago area also did not find a connection between road building and rapid growth of neighborhoods and communities. The study concluded that urban decentralization is largely caused by increasingly affluent residents and businesses pursuing independent choices.

While capacity enhancements are certainly not the only solution to the nation’s congestion crisis, they are part of an arsenal that must be tapped to address this dilemma. The “if you build it, they will come” argument seems more appropriately phrased as “they have already come and more are on the way, so we better deal with it.”

Operational Efficiencies

America’s future roadway transportation needs can only be met by implementing a dual approach of increasing system capacity while simultaneously improving operating efficiency. Efforts to promote one prong of this strategy without the other will not meet the nation’s growing demand for roadway safety, mobility and efficiency.

While aspects of improved operations have been developed and implemented for many years, there are few examples that can be used as models to fit the unique and large-scale needs of the U.S. transportation infrastructure and the American demand for efficient and convenient transportation. Some have cited extraordinary events as models, such as Olympics and other major entertainment and sporting events that have placed exceptional demands on our transportation capacity. While transportation planners have met these challenges with admirable success, the models still are “events” and do not fairly represent the long-term daily demands that are not being met in many U.S. metropolitan areas.

As the U.S. population and vehicle miles traveled grows exponentially faster than our new capacity, improved operations are a critical component of the campaign to alleviate congestion. Like all additional capacity, however, improved operational efficiencies cannot solve the problem in its entirety.

The operational aspects of the roadway system can be enhanced primarily in three ways: 1) operational improvements to the infrastructure, 2) more efficient traffic management, and 3) improved traffic management in temporary traffic control situations (e.g. work zones and emergency incident management). Each of these approaches is impacted, to varying degrees, by the general themes related to funding, institutional cooperation, understanding, and coordination, federal involvement, and planning.

Specifically, we recommend:

- Improving local management of traffic incidents to clear roadways quickly.
- Increased use of synchronized traffic signalization and other “smart road” technologies to increase traffic flow.
- Frequent, formal and regular dialogue between all stakeholders involved in transportation improvement projects.
- Incorporating safety considerations—for both the motorist and the construction worker—early in a project’s design phase, including positive separation between workers and traffic.
- Clear public communications, using all mediums including ITS messages, roadway signs designating alternate corridors, and work with local media outlets to change traffic flows in congested areas.
- Federal support for training and cooperative efforts between stakeholders involved in road construction, law enforcement, and emergency response to ensure a sound understanding of transportation operations and cooperation between agencies and governments at all levels.
- On the “low-tech” side, the federal policy should encourage roadway owners to consider elimination of unmarked intersections, and make greater use of signage and pavement markings to indicate known and predictable hazards.

- In areas of known dangers, such as limited visibility due to curves or hills, the federal government should assist with development / implementation of ITS applications to warn motorists of on-coming or cross-directional traffic that may not be visible from a safe stopping or slowing distance.

As a reflection of our comprehensive approach to addressing the nation's congestion crisis, ARTBA has been proud to participate in the National Dialogue on Transportation and Operations. Our members are committed to continuing to play an integral role in improving the operational efficiencies of the nation's surface transportation network.

Think Outside the Box

The transportation congestion crisis facing our nation is so great that we must start thinking “outside the box” to explore new solutions to adding highway capacity. This includes evaluating suggestions previously deemed unrealistic or too controversial.

One alternative that has been suggested is the construction of self-financed “truck only” lanes where it can be demonstrated that such facilities would benefit: public health and safety; national and regional economies; or homeland security. The self-financing of these lanes is imperative because it is important that any new capacity enhancement initiatives not detract from current federal activities that also contribute to alleviating congestion.

The creation of these truck only lanes would result in congestion mitigation benefits for both truck traffic and non-commercial automobiles for the simple reason that they would not be competing with one another for space on roadways. The use of existing Interstate Highway System median, air and tunnel right-of-ways for construction of “truck only” lanes would speed the review and approval process for these projects.

While more expensive, we also need to start thinking about double-decking and tunneling in some urban areas as an option, again using existing Interstate right-of-way and air space where possible.

Financial Capacity

The underlying capacity problem we are facing is financial capacity—adding new highway capacity is expensive and almost all the alternatives to provide meaningful congestion relief will require significantly increased investment. Even technological solutions, which some claim are less costly, will have to be funded from some new source of revenue or dilute a current federally-supported activity. We are not providing the investment levels necessary to maintain the existing highway, bridge and transit systems—much less invest in needed new capacity, whether highways or mass transit alternatives.

That is why ARTBA is calling for a minimum \$50 billion per year federal highway investment in TEA-21 reauthorization! The real target is \$65 billion per year. That is the respective federal share of the amount the U.S. Department of Transportation's biennial reports to Congress on the nation's highway investment needs clearly show is necessary to both maintain and add economically-justifiable capacity to the nation's road system.

These figures incorporate an important distinction—it is not enough to focus on the physical conditions of the nation’s surface transportation network, we must also look at what is necessary for system performance. System performance is the heart of today’s hearing because it is a measure of travel times and, in turn, congestion.

While \$50 billion to maintain current physical conditions and system performance requirements and \$65 billion to actually make improvements in these areas may seem like a daunting prospect, the growing economic costs of congestion and congestion’s impact on the quality of life of all Americans must be weighed in assessing these investment requirements.

To reach these investment goals, the ARTBA TEA-21 Reauthorization Task Force suggests the following menu of options that can be employed to bring current federal investment up to the level consistent with the system’s requirements.

- Increasing federal highway user fees—each one cent per gallon increase in the federal motor fuels excise would generate \$2 billion per year to the Highway Trust Fund (HTF);
- Indexing the federal motor fuels tax to the Consumer Price Index (CPI);
- Eliminating the federal tax subsidy on ethanol-based motor fuels sales—would generate an additional \$1.3 to \$2 billion annually for the HTF; and
- Annually drawing down on the \$20 billion balance in the HTF—could provide an additional \$5 billion per year;
- Again crediting interest earned on the HTF’s unexpended balances, as was the case prior to enactment of TEA-21. Currently, this interest revenue goes to the General Fund;
- Fostering tax-exempt financing for transportation capital projects and the implementation of innovative financing mechanisms like State Infrastructure Banks and regional transportation compacts to leverage funds; and
- Eliminating federal motor fuels user fee evasion—could provide an additional \$1.8 billion per year to the HTF.

While many of these options could be considered politically challenging to say the least, the consequences of not increasing federal investment are equally if not more daunting. With respect to the topic of today’s hearing, failing to increase federal surface transportation infrastructure investment will result in even greater congestion on our nation’s highways and transit systems.

Conclusion

Mr. Chairman, members of the subcommittee, I thank you for inviting ARTBA to be part of today’s dialogue on this vexing issue. The transportation construction industry is committed to being part of the solution to the nation’s congestion crisis in adding intermodal capacity, improving the efficiency of transportation operations, and changing regulatory controls that impede efforts to alleviate congestion.

In closing, I would like to share with you an excerpt from an April 25 Washington Post editorial that encapsulates the essence of my testimony. As you know, the Post prides itself on a progressive viewpoint and I think you may find their conclusions somewhat surprising:

“Nationally, last year was the fifth in a row that transit ridership grew faster than highway use, according to the American Public Transportation Association. Is this a signal to curb road-building in favor of more transit options?”

“Hardly, more transit options, yes—but no matter how much transit’s contribution to movement may grow, additional roads and river crossings for cars must be built. True, transit systems are luring some motorists out of their vehicles—and that is good. Yet many of today’s daily travel patterns don’t lend themselves to bus or train travel, especially in households with two or more working adults who have errands to run, kids to carpool or places to go where transit doesn’t—and won’t. Above all, this region, like its transit ridership, continues to grow swiftly. The smartest growth policies in the world won’t fix the traffic problems that have multiplied over years of insufficient investment. The argument that if you build more roads they just fill up with more traffic is true not because roads automatically generate drivers, but because a growing population does. In addition, many motorists now forced to clog inadequate streets would gladly abandon those routes for safer, more efficient highways.

“The transportation mess is compounded when transit is pitted against roads in a competition for money that regional, state and federal leaders haven’t been courageous enough to raise.”

Thank you again for inviting me to testify. I am happy to answer your questions.